Abstract

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DETECTION LIMIT HYBRIDIZATION EXPERIMENTS. Michael Nelson (University of Illinois at Urbana-Champaign, Urbana, IL 61801, menelson@uiuc.edu) Gennadiy Yershov* (Argonne National Laboratory, Argonne, Illinois 60439)

With the growing industry and importance of biochip technology, statistical validation and standardization has become increasingly important. Through determination of the limits of the biochip system, the real world applications of the biochip are greatly enhanced. In finding the detection limit of a system, determination of the ratio of the target solution to a biological background and finding the lowest concentration of that target solution are crucial to characterizing that system. Multiple hybridizations are carried out to determine these important factors. As the ratio of the target to biological background increases, the ability to obtain positive detection decreases. The same applies as the concentration of the target decreases. By creating standards, the biochip is better suited to achieve its full potential for real world problems.

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